

[FLASH MEMORY CELL, FLASH MEMORY CELL ARRAY AND MANUFACTURING METHOD THEREOF]

Abstract

A flash memory cell array comprises a substrate, a string of memory cell structures and source region/drain region. Each of memory cell structures includes a stack gate structure including a select gate dielectric layer, a select gate and a gate cap layer formed on the substrate; a spacer is set on the sidewall of the select gate; a control gate connected to the stack gate structure is set on the one side of the stack gate structure; a floating gate is set between the control gate and the substrate; an inter-gate dielectric layer is set between the control gate and the floating gate; and a tunneling dielectric layer is set between the floating gate and the substrate. The source region/drain region is set in the substrate near outer control gate and stack gate structure of the flash memory cell array.